

**County of Orange
Health Care Agency**

Orange County Birth Outcomes, 1999



March 2002

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March 2002

To our colleagues in public health,

We are pleased to announce the availability of our statistical report, "Birth Outcomes, 1999." This information is compiled from birth, death, and fetal death certificates filed with the Birth and Death Registration Office of the County of Orange Health Care Agency, and is the most recent report in the annual series. This report is one of the crucial elements in monitoring the health status of Orange County and provides data necessary for the development of policies to improve the health of Orange County's population.

The information presented in this report can be considered to be the official data for 1999. Unless otherwise noted, reference is made to births and death *to Orange County residents*, regardless of where the event occurred. Similarly, births and deaths occurring within the county, but to residents of other jurisdictions, are *not* included in this report.

The report is available and can be downloaded from the Epidemiology and Assessment website, <http://www.ochealthinfo.com/epi/statistics.htm>.

Thank you for your interest in this special report. We encourage you to make other interested colleagues aware of its publication. If you would like more information, please feel free to contact Epidemiology and Assessment at (714) 834-8180.

Sincerely,

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**County of Orange
Health Care Agency**

Birth Outcomes 1999

INTRODUCTION

This document provides tabulations of vital statistics on births in the County of Orange, California, in 1999, as part of a historical series of similar annual reports. These data are compiled from information provided on birth, fetal death and death certificates filed with Birth and Death Registration Office in the County of Orange Health Care Agency.

This document is divided into eight sections based on the data presented. Section 1 presents birth and infant mortality rates. Section 2 presents statistics on complications and procedures performed during pregnancy and labor, in addition to abnormal conditions and clinical procedures relating to the newborn. Section 3 presents the number and rate of cesarean deliveries by Orange County hospital. Section 4 presents statistics related to the birth weight of the infant. Section 5 presents statistics related to when prenatal care was initiated. Section 6 presents statistics on payment source for prenatal care and delivery. Section 7 presents statistics on parental age, focusing on comparing father's age with mother's age. Section 8 compares the ethnicity of the mother with the ethnicity of the father.

The appendices provide additional information on the number of births by ethnicity of the mother, as well as population statistics from the California Department of Finance used to calculate rates. Appendix 3, Technical Notes, contains valuable information on a variety of issues related to the construction of the tables in this report, e.g. categorization of ethnicity, important definitions of terms used in this report, and calculation of rates and ratios.

The information presented can be considered official 1999 data. Official data for 2000 is not expected to be released until the Fall of 2002, followed by the release of official data for 2001 in Fall of 2003.

If you have questions or comments regarding the data presented, or for more information on birth statistics, please telephone County of Orange Health Care Agency, Assessment and Epidemiology at (714) 834-8180.

Users are welcome to reproduce or quote this document in whole or in part provided that acknowledgement is given. Suggested citation: *County of Orange, California, Birth Outcomes, 1999*, County of Orange Health Care Agency, Santa Ana, California, March 2002.

**County of Orange
Health Care Agency**

Birth Outcomes 1999

Table of Contents

Highlights.....	1
Birth Outcome Summary.....	2
Section 1. Birth & Infant Mortality Rates	
Live Birth & Birth Rates for Orange County Cities.....	4
Birth Rates by Race/Ethnicity of the Mother	5
Crude Birth Rates by Race/Ethnicity of the Mother	5
Fertility Rates by Race/Ethnicity of the Mother.....	5
Teen Birth Rates by Race/Ethnicity of the Mother.....	5
Infant Mortality Rates by Race/Ethnicity of the Mother.....	5
Section 2. Complications, Procedures & Abnormal Conditions	
Complications & Procedures of Pregnancy & Concurrent Illnesses.....	6
Complications & Procedures of Labor & Delivery	7
Abnormal Conditions & Clinical Procedures Relating to the Newborn	8
Section 3. Number & Rate of Cesarean Deliveries	
Birth & Rates of Cesarean Delivery by Orange County Hospital, Total Births and Births to Residents of Orange County.....	9
Section 4. Birth Weight	
Birth Weight by Race/Ethnicity of Mother	11
Very Low Birth Weight Incidence by Race/Ethnicity of Mother	12
Low Birth Weight Incidence by Race/Ethnicity of Mother.....	12
Mother's Age by Child's Birth Weight.....	13

Section 5. Prenatal Care

Trimester Prenatal Care Initiated by Mother's Education Level.....	14
Trimester Prenatal Care Initiated by Race/Ethnicity of Mother.....	15
Trimester Prenatal Care Initiated by Mother's Age.....	16

Section 6. Payment Source

Principal Payment Source for Prenatal Care by Race/Ethnicity of Mother.....	17
Expected Payment Source for Delivery by Race/Ethnicity of Mother.....	17

Section 7. Parental Age

Father's Age Statistics by Mother's Age Group.....	18
Difference in Father's & Mother's Age (Father's Age-Mother's Age) by Mother's Age Group	18

Section 8. Comparison of Mother's & Father's Race/Ethnicity

Mother's Race/Ethnicity by Father's Race/Ethnicity	19
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Appendices

Appendix 1: Number of Births by Race/Ethnicity of the Mother	20
Number of Births to Mothers Aged 15-44 Years by Race/Ethnicity of the Mother	20
Number of Births to Teens (Mother's Aged 15-19) by Race/Ethnicity of the Mother	20
Number of Infant Deaths by Race/Ethnicity of the Mother	20
Appendix 2: July 1, 1999, Orange County Population Estimates.....	21
Appendix 3. Technical Notes	22
Definitions	24

**County of Orange
Health Care Agency**

Birth Outcomes 1999

HIGHLIGHTS

The number of births to Orange County residents in 1999 was 46,478, an increase of 0.6% from the 46,186 births in 1998.

The fertility rate (number of births per 1,000 females aged 15-44) was 78.2, an increase of 1.6% from the rate of 77.0 in 1998. The fertility rate differed markedly among racial/ethnic groups:

- Hispanic 128.4
- Asian/Pacific Islander 65.9
- African American 58.2
- White 54.5
- American Indian 38.2

Teenagers (15 – 19 years old) gave birth to 3,673 infants, resulting in a rate of 44.4 per 1,000; this is a decrease of 3.1% from the 1998 rate of 45.8 per 1,000.

- Hispanic 105.9
- African American 36.6
- American Indian 28.0
- White 14.3
- Asian/Pacific Islander 11.3

The infant mortality rate in 1999 was 4.50 per 1,000 live births, an increase of 1.8% from the 1998 infant mortality rate of 4.42. In 1999, Orange County had already surpassed the Healthy People 2000 target rate of 7.00 per 1,000 live births and already met the Healthy People 2010 rate of 4.50.

In 1999, 86.6% of Orange County mothers reported seeking prenatal care in the first trimester. This is an increase of 1.5% over 1998, when 85.3% of mothers reported beginning prenatal care in the first trimester. However, Orange County fell below the Healthy People 2000 and 2010 goal of 90% of mothers receiving prenatal care in the first trimester. Nearly two-thirds (64.8%) of mothers were reported to have at least one ultrasound during pregnancy; electronic fetal monitoring was reported for 9.6% of mothers.

There were 2,564 infants of low birth weight (less than 2,500 grams), a rate of 55.17 per 1,000 live births, which is a small increase (0.3%) from the rate of 55.0 in 1998. The rate in 1999 was slightly higher than the Healthy People 2000 and 2010 goal of no more than 50.0 low birth weight infants per 1,000 live births. The rate of very low birth weight (less than 1,500 grams) infants in 1999 was 9.55 per 1,000 live births, a decrease of 5.0% from the rate of 10.05 in 1998. However, the 1999 Orange County rate of very low birth weight infants is higher than the Healthy People 2000 and 2010 goals of 10.0 and 9.0, respectively.

Cesarean section births were performed in 22.5% of 1999 births, an increase of 8.2% over the 1998 cesarean birth percentage of 20.8%. Of the 10,456 cesarean births, 6,440 (61.6%) were first time cesarean births and 4,016 (38.4%) were repeat cesarean births. Repeat cesarean births represented 79.7% of births to mothers who reported a previous cesarean birth (5,040), above the Healthy People 2000 and 2010 goals of 65% and 63%, respectively.

County of Orange
Resident Births
1999

Birth Outcome Summary

	Total	Male	Female
Total Live Births to Orange County Residents¹:	46,478	23,698	22,780
Estimated Population of Orange County ²	2,802,800		
Crude Birth Rate per 1,000 Population	16.58		
Total Live Births Occurring in Orange County:			
(Including non-resident births, excluding resident births out of county):	49,100		
Mean Age of Mother (Years):	28.45		
Fertility Rate:			
Births to Mothers aged 15-44	46,343		
Estimated Population of Females aged 15-44	592,815		
Fertility Rate per 1,000 Females aged 15-44	78.17		
Teen Birth Rate:			
Births to Mothers aged 15-19	3,673		
Estimated Population of Females aged 15-19	82,727		
Teen Birth Rate per 1,000 Females aged 15-19	44.40		
Births to Mothers aged 10-14	59		
Estimated Population of Females aged 10-14	91,842		
Teen Birth Rate per 1,000 Females aged 10-14	0.64		
Infant Deaths³:			
Infant Deaths (< 1 Year)	209		
Infant Mortality per 1,000 Live Births	4.50		
Neonatal Deaths (Less than 28 days)	145		
Neonatal Mortality Rate per 1,000 Live Births	3.12		
Post-Neonatal Deaths (28 days to < 1 Year)	64		
Post-Neonatal Mortality Rate per 1,000 Live Births	1.38		
Healthy People 2000 Infant Mortality Goal per 1,000 Births	7.00		
Healthy People 2010 Infant Mortality Goal per 1,000 Births	4.50		

¹ Unless otherwise specified all numbers and rates are for births to Orange County residents, whether or not the birth occurred in Orange County.

² State of California, Department of Finance, *County Population Estimates and Components of Change, July 1, 2000-2001, with Historical Estimates, 1990-2000*. Sacramento, California, January 2002.

³ Birth certificates matched to death certificates.

County of Orange
Resident Births
1999

Birth Outcome Summary

Fetal Deaths (death of fetus ³20 weeks of gestation):

Number	267
Fetal Death Ratio per 1,000 Live Births	5.74
Healthy People 2000 Fetal Death Goal per 1,000 Births	5.00
Healthy People 2010 Fetal Death Goal per 1,000 Births	4.10

Maternal Deaths¹:

Maternal Deaths	6
Maternal Death Rate per 100,000 Live Births	12.9
Healthy People 2000 & 2010 Goal per 100,000 Births	3.3

Low Birth Weight Infants:

Very Low Birth Weight (<1,500 g)	444
Rate of Very Low Birth Weight per 1,000 Live Births	9.55
Healthy People 2000 & 2010 Goal per 1,000 Births	9.00
Low Birthweight (< 2,500 g)	2,564
Rate of Low Birth Weight per 1,000 Live Births	55.17
Healthy People 2000 & 2010 Goal per 1,000 Births	55.00

C-Section Deliveries:

Previous C-Section Births	5,040
First C-Sections	6,440
Total C-Sections	10,456
% of Total Births	22.50%

Out of Hospital Births:

At Home	109
Other (In auto, in parking lot, etc.)	16
Total	125

Live Births by Plurality²:

Singleton	45,191
Twin	1,171
Triplet	98
Quadruplet	18

¹ Maternal deaths based on 1999 Orange County death certificate data.

² Excludes fetal deaths, stillbirths, and sibling(s) born in 1998.

County of Orange

Resident Births

1999

Section 1. Birth & Infant Mortality Rates

Live Births & Birth Rates for Orange County Cities

City of Residence	Live Births	Population ¹	Rate /1,000 Population
Anaheim	6,771	320,900	21.10
Brea	432	34,850	12.40
Buena Park	1,331	76,500	17.40
Costa Mesa	1,869	107,300	17.42
Cypress	481	45,900	10.48
Dana Point	425	34,650	12.27
Fountain Valley	642	54,600	11.76
Fullerton	1,869	124,500	15.01
Garden Grove	2,912	162,300	17.94
Huntington Beach	2,524	187,300	13.48
Irvine	1,550	133,800	11.58
Laguna Beach	228	23,500	9.70
Laguna Hills	456	30,850	14.78
Laguna Niguel	888	60,400	14.70
La Habra	1,101	57,400	19.18
Lake Forest	858	58,100	14.77
La Palma	173	15,350	11.27
Los Alamitos	206	11,500	17.91
Mission Viejo	1,182	90,900	13.00
Newport Beach	586	67,800	8.64
Orange	2,324	126,800	18.33
Placentia	754	45,700	16.50
San Clemente	812	48,700	16.67
San Juan Capistrano	513	33,200	15.45
Santa Ana	8,562	332,500	25.75
Seal Beach	153	24,250	6.31
Stanton	587	36,450	16.10
Tustin	1,384	65,800	21.03
Villa Park	38	5,925	6.41
Westminster	1,384	86,500	16.00
Yorba Linda	614	58,000	10.59
Rest of County	2,869	213,900	13.41
Total ²	46,478	2,776,100	16.74

¹ State of California, Department of Finance, *Revised Historical City, County and State Population Estimates, 1991-2000, with 1990 and 2000 Census Counts*. Sacramento, California. March 2002.

² Population and rate are different from page two because population estimates for cities are only available for January 1, 1999, from the California Department of Finance.

County of Orange
Resident Births
1999

Section 1. Birth & Infant Mortality Rates

Birth Rates by Race/Ethnicity of the Mother

Crude Birth Rates by Race/Ethnicity of the Mother

Race/Ethnicity of the Mother	Live Births	Rate /1,000 Population
White/Other ¹	17,407	11.14
African American	595	13.65
Hispanic	22,765	27.93
Asian/Pacific Islander	5,636	15.75
American Indian	75	8.80
Total	46,478	16.67

Fertility Rates by Race/Ethnicity of the Mother

Race/Ethnicity of the Mother	Live Births	Rate /1,000 Females 15-44 Years
White/Other ¹	17,359	54.49
African American	594	58.24
Hispanic	22,691	128.41
Asian/Pacific Islander	5,624	65.86
American Indian	75	38.21
Total	46,343	78.17

Teen (Mother's age 15 to 19) Birth Rates by Race/Ethnicity of the Mother

Race/Ethnicity of the Mother	Live Births	Rate /1,000 Females 15-19 Years
White/Other ¹	584	14.27
African American	62	36.58
Hispanic	2,876	105.92
Asian/Pacific Islander	144	11.33
American Indian	7	28.00
Total	3,673	44.40

Infant Mortality Rates by Race/Ethnicity of the Mother²

Race/Ethnicity of the Mother	Infant Deaths	Rate³ /1,000 Live Births
White/Other ¹	56	3.22
African American	9	15.13
Hispanic	121	5.32
Asian/Pacific Islander	23	4.08
American Indian	0	--
Total	209	4.50

Healthy People 2000 Infant Mortality Goal per 1,000 Live Births 7.00

Healthy People 2000 Infant Mortality Goal per 1,000 Live Births 4.50

¹ The California Department of Finance adds those race/ethnicity categories that do not meet the definitions of Hispanic, African-American, Asian/Pacific Islander or American Indian/Native Alaskan to the White/Other category.

² Birth certificates matched to death certificates.

³ Rates not calculated for fewer than 5 events.

County of Orange
Resident Births
1999

Section 2. Complications, Procedures & Abnormal Conditions

Complications & Procedures of Pregnancy & Concurrent Illnesses

<u>Complications, Concurrent Illnesses¹ and Risk Factors</u>	<u>Number</u>	<u>Rate /1,000 Live Births</u>
Premature labor	1,901	40.90
Diabetes	1,050	22.59
Pre-Eclampsia (pregnancy-induced hypertension, edema, and/or proteinuria)	850	18.29
Anemia (hct. < 30 and/or hgb. < 10)	649	13.96
Polyhydramnios / Oligohydramnios	442	9.51
Genital herpes	308	6.63
Tobacco use during pregnancy	257	5.53
Any previous live birth or fetal death = 4,000 grams birthweight	207	4.45
Hepatitis B (acute infection or carrier)	205	4.41
Uterine bleeding before labor	199	4.28
Any previous live birth or fetal death < 37 weeks gestation	166	3.57
Sexually transmitted disease, other than genital herpes	143	3.08
Hypertension, chronic	126	2.71
Any previous live birth or fetal death < 2,500 grams birthweight	114	2.45
Lung disease (acute or chronic)	77	1.66
Cardiac disease	72	1.55
Incompetent cervix (with or without cerclage)	67	1.44
Pyelonephritis	60	1.29
Rh sensitization	59	1.27
Renal disease	18	0.39
Hemoglobinopathy	16	0.34
<u>Eclampsia (convulsions or coma)</u>	13	0.28
Total	6,999	150.59
<u>Procedures (Number of mothers reporting at least one of the following)</u>		
Ultrasound	30,140	648.48
Electronic fetal monitoring	4,485	96.50
Amniocentesis	1,072	23.06
Tocolysis	304	6.54
Cervical cerclage	56	1.20
<u>Chorionic villus sampling</u>	14	0.30
Total Procedures	36,071	776.09
Other Complications and Procedures	2,215	47.66

¹ Rubella was reported as a concurrent illness for 54 mothers; however, historically this has been miscoded to represent the immune status of the mother.

Note: Complications and procedures of pregnancy and concurrent illnesses are selected from a predetermined list of numeric codes that are entered onto the birth certificate.

County of Orange
Resident Births
1999

Section 2. Complications, Procedures & Abnormal Conditions

Complications & Procedures of Labor & Delivery

Complications	Number	Rate¹ /1,000 Live Births
Presence of meconium, moderate to heavy	2,539	54.63
Febrile (>100° F, or >38° C)	1,875	40.34
Breech or other abnormal presentation	1,458	31.37
Fetal distress	1,164	25.04
Premature rupture of membrane (>12 hours)	784	16.87
Pre-eclampsia (pregnancy-induced hypertension, edema, and/or proteinurea)	714	15.36
Fetopelvic disproportion	623	13.40
Precipitous labor	464	9.98
Prolonged labor (>20 hours)	257	5.53
Unsuccessful vaginal birth	189	4.07
Shoulder dystocia	183	3.94
Placenta previa	172	3.70
Abruptio placenta	161	3.46
Amnionitis / sepsis	121	2.60
Genital herpes	70	1.51
Cord prolapse	49	1.05
Seizures during labor	22	0.47
Anesthetic complications	14	0.30
Eclampsia (convulsions or coma)	13	0.28
Maternal death ² (within 72 hours of delivery)	3	--
Other dysfunctional labor	949	20.42
Other excessive bleeding	179	3.85
Total Complications	12,003	258.25
<u>Procedures (Number of mothers reporting at least one of the following)</u>		
Electronic fetal monitoring	37,397	804.62
Stimulation of labor	7,107	152.91
Induction of labor	6,856	147.51
Ultrasound	2,656	57.15
Tocolysis	81	1.74
Amniocentesis	50	1.08
Maternal blood transfusion	30	0.65
<u>Transport of mother from another facility prior to labor</u>	<u>22</u>	<u>0.47</u>
Total Procedures	54,199	1166.12
Other Complications and Procedures	3,844	82.71

¹ Rates are not calculated for fewer than five events.

² Three of six maternal deaths matched to death certificate data.

Note: Complications and procedures of delivery are selected from a predetermined list of numeric codes that are entered onto the birth certificate.

County of Orange
Resident Births
1999

Section 2. Complications, Procedures & Abnormal Conditions

Abnormal Conditions & Clinical Procedures Relating to the Newborn

Abnormal Conditions¹	Number	Rate /1,000 Live Births
Hyaline membrane disease or RDS	80	1.72
Meconium aspiration syndrome	70	1.51
Anemia (hct. < 39 and/or hbg. < 13)	48	1.03
Down's syndrome	19	0.41
Cleft lip	15	0.32
Anomalies of the skin, nail or hair	13	0.28
Birth injury, with or without specific site	13	0.28
Patent ductus arteriosus	12	0.26
Tracheo-esophageal fistula, or esophageal atresia or stenosis	11	0.24
Hip dislocation without CNS	10	0.22
Hypospadias or epispadias	9	0.19
Talipes	8	0.17
Valve stenosis	8	0.17
Cleft palate	7	0.15
Cleft palate with cleft lip	7	0.15
Other anomalies of the respiratory system	141	3.03
Other anomalies of the heart	16	0.34
Other anomalies of the ear, face, and/or neck	11	0.24
Other conditions due to chromosome anomalies	8	0.17
Other anomalies of the central nervous system	7	0.15
Other anomalies of the digestive system	7	0.15
Other anomalies of the musculoskeletal system	7	0.15
Other anomalies of the urinary tract system	7	0.15
Other autosomal trisomes	7	0.15
<u>Other anomalies with fewer than seven occurrences</u>	<u>121</u>	<u>2.60</u>
Total Abnormal Conditions	662	14.24
<u>Procedures Relating to the Newborn</u>		
Neonatal Intensive Care Unit (NICU)	1,585	34.32
Transfer of newborn to another facility	424	9.18
Assisted ventilation >= 30 minutes	395	8.55
<u>Assisted ventilation < 30 minutes</u>	<u>15</u>	<u>0.32</u>
Total Procedures	2,419	52.05
Other Abnormal Conditions and Procedures	1,412	30.38

¹ The Vital Statistics Section of the California Department of Health Services Center for Health Statistics considers the birth certificate data regarding congenital abnormalities unreliable. It is well documented that congenital anomalies, except for the most visible and most severe, are incompletely reported on birth certificates. The completeness of reporting specific anomalies depends on how easily they are recognized in the short time between birth and birth-registration.

Note: Abnormal conditions and clinical procedures relating to the newborn are selected from a predetermined list of numeric codes that are entered onto the birth certificate.

County of Orange

Resident Births

1999

Section 3. Number & Rate of Cesarean Deliveries

Births & Rates of Cesarean Delivery by Orange County Hospital, Total Births and Births to Residents of Orange County

Hospital	Total Births	Total C-Section	First C-Section	Repeat C-Section	C-Section Rate (%) of Total Births
Anaheim General Hospital					
Total Births	645	204	113	91	31.63%
Orange County Residents	587	186	100	86	
Anaheim Memorial M.C.					
Total Births	1,097	228	136	92	20.78%
Orange County Residents	1,020	212	126	86	
Chapman Medical Center					
Total Births	225	64	39	25	28.44%
Orange County Residents	218	63	38	25	
Coastal Communities Hospital					
Total Births	1,775	395	245	150	22.25%
Orange County Residents	1,754	387	241	146	
Fountain Valley Regional M.C.					
Total Births	3,967	856	521	335	21.58%
Orange County Residents	3,787	821	505	316	
Garden Grove Hosp. & M.C.					
Total Births	2,285	615	374	241	26.91%
Orange County Residents	2,195	585	361	224	
Hoag Memorial Hospital					
Total Births	4,587	1,227	824	403	26.75%
Orange County Residents	4,386	1,176	791	385	
Irvine Medical Center					
Total Births	1,447	367	229	138	25.36%
Orange County Residents	1,361	337	209	128	
Kaiser Foundation, Anaheim					
Total Births	3,644	676	423	253	18.55%
Orange County Residents	3,161	567	354	213	
La Palma Intercommunity					
Total Births	695	180	93	87	25.90%
Orange County Residents	400	97	51	46	
Los Alamitos M.C.					
Total Births	2,292	533	289	244	23.25%
Orange County Residents	520	127	75	52	
Martin Luther Hosp. M.C.					
Total Births	1,416	360	218	142	25.42%
Orange County Residents	1,291	321	191	130	
Mission Hosp Regional M.C.					
Total Births	3,496	685	423	262	19.59%
Orange County Residents	3,409	665	412	253	
Orange Coast Memorial M.C.					
Total Births	514	108	56	52	21.01%
Orange County Residents	406	78	43	35	

(continued on next page)

County of Orange

Resident Births

1999

Section 3. Number & Rate of Cesarean Deliveries

Births & Rates of Cesarean Delivery by Orange County Hospital, Total Births and Births to Residents of Orange County (continued)

Hospital	Total Births	Total C-Section	First C-Section	Repeat C-Section	C-Section Rate (%) of Total Births
Placentia Linda Community					
Total Births	562	144	81	63	25.62%
Orange County Residents	468	121	67	54	
Saddleback Memorial M.C.					
Total Births	2,511	426	275	151	16.97%
Orange County Residents	2,414	413	269	144	
Samaritan M.C. - San Clemente					
Total Births	281	54	25	29	19.22%
Orange County Residents	264	51	23	28	
Santa Ana Medical Center					
Total Births	2,497	463	279	184	18.54%
Orange County Residents	2,467	454	274	180	
South Coast Medical Center					
Total Births	418	102	60	42	24.40%
Orange County Residents	406	99	58	41	
St. Joseph Hospital					
Total Births	6,225	1,420	916	504	22.81%
Orange County Residents	5,750	1,299	844	455	
St. Jude Medical Center - Fullerton					
Total Births	2,738	625	394	231	22.83%
Orange County Residents	2,037	437	279	158	
UCI Medical Center					
Total Births	1,454	435	255	180	29.92%
Orange County Residents	1,352	402	229	173	
West Anaheim Medical Center					
Total Births	311	65	38	27	20.90%
Orange County Residents	290	60	36	24	
Western Medical Center-Anaheim					
Total Births	1,475	313	160	153	21.22%
Orange County Residents	1,436	301	154	147	
Western Medical Center-Santa Ana					
Total Births	2,410	544	288	256	22.57%
Orange County Residents	2,375	536	284	252	
At Home					
Total Births	111	-	-	-	-
Orange County Residents	109	-	-	-	-
Other locations/Unknown					
Total Births	2,637	668	431	237	25.33%
Orange County Residents	2,615	661	426	235	
Total					
Total Births	51,715	11,757	7,185	4,572	22.73%
Orange County Residents	46,478	10,456	6,440	4,016	

County of Orange
Resident Births
1999
Section 4. Birth Weight

Birth Weight by Race/Ethnicity of Mother

Birth Weight (g) ¹	Race/Ethnicity of Mother							
	White	African-American	Hispanic	Southeast Asian	Other Asian	Other ²	Unknown	Total
Mean	3,440	3,205	3,371	3,188	3,261	3,212	3,384	3,374
Median	3,470	3,280	3,400	3,204	3,280	3,260	3,480	3,402
Std. Deviation	573.94	645.52	559.38	497.63	540.00	594.66	596.44	566.46
Birth Weight Group								
< 1,500 g	144	15	211	26	32	13	3	444
% of column	0.87	2.52	0.93	1.01	1.05	1.90	1.71	0.96
% of row	32.43	3.38	47.52	5.86	7.21	2.93	0.68	100.00
1,500-2,499 g	725	41	995	127	173	50	9	2,120
% of column	4.36	6.89	4.37	4.92	5.66	7.31	5.14	4.56
% of row	34.20	1.93	46.93	5.99	8.16	2.36	0.42	100.00
2,500-3,499 g	7,803	356	12,152	1,783	1,919	408	82	24,503
% of column	46.94	59.83	53.38	69.14	62.77	59.65	46.86	52.72
% of row	31.85	1.45	49.59	7.28	7.83	1.67	0.33	100.00
3,500-4,499 g	7,631	177	9,061	635	898	205	79	18,686
% of column	45.91	29.75	39.80	24.62	29.38	29.97	45.14	40.20
% of row	40.84	0.95	48.49	3.40	4.81	1.10	0.42	100.00
4,500+ g	320	6	346	8	35	8	2	725
% of column	1.93	1.01	1.52	0.31	1.14	1.17	1.14	1.56
% of row	44.14	0.83	47.72	1.10	4.83	1.10	0.28	100.00
Total	16,623	595	22,765	2,579	3,057	684	175	46,478
% of column	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
% of row	35.77	1.28	48.98	5.55	6.58	1.47	0.38	100.00

¹ Birth weight in grams.

² Other race/ethnicity defined as Native Americans, Alaskan Natives, Native Hawaiians and those who described themselves as "Other" race/ethnicity.

Note: Due to rounding, percentages may not add to 100.

Note: Healthy People 2000 goal for very low birth weight infants (< 1,500 g) is 1.0% of live births; Healthy People 2010 goal is 0.9% of live births.

Note: Healthy People 2000 & 2010 goal for low birth weight (< 2,500 g) infants is 5.0% of live births.

County of Orange
Resident Births
1999
Section 4. Birth Weight

Very Low Birth Weight Incidence by Race/Ethnicity of Mother

	Race/Ethnicity of Mother							
Birth Weight (g) ¹	White	African-American	Hispanic	Southeast Asian	Other Asian	Other ³	Unknown ⁴	Total
Very low birth weight (< 1,500 g)	144	15	211	26	32	13	3	444
Rate ²	8.66	25.21	9.27	10.08	10.47	19.01	--	9.55

Low Birth Weight Incidence by Race/Ethnicity of Mother

	Race/Ethnicity of Mother							
Birth Weight (g) ¹	White	African-American	Hispanic	Southeast Asian	Other Asian	Other ³	Unknown	Total
Low birth weight (< 2,500 g)	869	56	1,206	153	205	63	12	2,564
Rate ²	52.28	94.12	52.98	59.33	67.06	92.11	68.57	55.17

¹ Birth weight in grams.

² Rate is calculated per 1,000 live births.

³ Other race/ethnicity defined as Native Americans, Alaskan Natives, Native Hawaiians and those who described themselves as "Other" race/ethnicity.

⁴ Rates are not calculated for fewer than five events.

Note: Healthy People 2000 goal for very low birth weight infants is 10.0 per 1,000 live births; Healthy People 2010 goal is 9.0 per 1,000 live births.

Note: Healthy People 2000 & 2010 goal for low birth weight infants is 50.0 per 1,000 live births.

County of Orange
Resident Births
1999

Section 4. Birth Weight

Mother's Age by Child's Birth Weight

Mother's Age^{1,2}	Child's Birth Weight³					
	< 1,500 g	1,500 - 2,499 g	2,500 - 3,499 g	3,500 - 4,499 g	4,500 + g	Total
< 15 Years	2	2	40	14	1	59
% of column	0.45	0.09	0.16	0.07	0.14	0.13
% of row	3.39	3.39	67.80	23.73	1.69	100.00
15-17 Years	18	76	801	336	7	1,238
% of column	4.05	3.58	3.27	1.80	0.97	2.66
% of row	1.45	6.14	64.70	27.14	0.57	100.00
18-19 Years	31	125	1,485	777	17	2,435
% of column	6.98	5.90	6.06	4.16	2.34	5.24
% of row	1.27	5.13	60.99	31.91	0.70	100.00
20-24 Years	67	373	5,104	3,394	97	9,035
% of column	15.09	17.59	20.83	18.16	13.38	19.44
% of row	0.74	4.13	56.49	37.57	1.07	100.00
25-29 Years	95	523	6,802	5,377	202	12,999
% of column	21.40	24.67	27.76	28.78	27.86	27.97
% of row	0.73	4.02	52.33	41.36	1.55	100.00
30-34 Years	124	587	6,478	5,429	248	12,866
% of column	27.93	27.69	26.44	29.05	34.21	27.68
% of row	0.96	4.56	50.35	42.20	1.93	100.00
35-39 Years	80	331	3,144	2,824	133	6,512
% of column	18.02	15.61	12.83	15.11	18.34	14.01
% of row	1.23	5.08	48.28	43.37	2.04	100.00
40-44 Years	25	93	610	512	18	1,258
% of column	5.63	4.39	2.49	2.74	2.48	2.71
% of row	1.99	7.39	48.49	40.70	1.43	100.00
45 + Years	2	10	37	23	2	74
% of column	0.45	0.47	0.15	0.12	0.28	0.16
% of row	2.70	13.51	50.00	31.08	2.70	100.00
Total	444	2,120	24,501	18,686	725	46,476
% of column	100.00	100.00	100.00	100.00	100.00	100.00
% of row	0.96	4.56	52.72	40.21	1.56	100.00

¹ Mother's age at time of delivery.

² Age unknown for two mothers.

³ Birth weight in grams.

Note: Due to rounding, percentages may not add to 100.

Note: Healthy People 2000 goal for very low birth weight infants (< 1,500 g) is 1.0% of live births; Healthy People 2010 goal is 0.9% of live births.

Note: Healthy People 2000 & 2010 goal for low birth weight (< 2,500 g) infants is 5.0% of live births.

County of Orange
Resident Births
1999
Section 5. Prenatal Care

Trimester Prenatal Care Initiated by Mother's Education Level

Trimester Prenatal Care Initiated	Mother's Education Level ¹						Total
	No High School	Some High School	High School Graduate	Some College	College Graduate	Post-Graduate	
First trimester	5,324	5,929	10,036	7,738	6,739	4,177	39,943
% of column	78.66	77.68	85.02	90.73	95.44	96.18	86.57
% of row	13.33	14.84	25.13	19.37	16.87	10.46	100.00
Second trimester	1,095	1,344	1,428	647	248	132	4,894
% of column	16.18	17.61	12.10	7.59	3.51	3.04	10.61
% of row	22.37	27.46	29.18	13.22	5.07	2.70	100.00
Third trimester	269	288	226	100	53	18	954
% of column	3.97	3.77	1.91	1.17	0.75	0.41	2.07
% of row	28.20	30.19	23.69	10.48	5.56	1.89	100.00
No prenatal care	38	49	48	19	5	5	164
% of column	0.56	0.64	0.41	0.22	0.07	0.12	0.36
% of row	23.17	29.88	29.27	11.59	3.05	3.05	100.00
Unknown	42	23	66	25	16	11	183
% of column	0.62	0.30	0.56	0.29	0.23	0.25	0.40
% of row	22.95	12.57	36.07	13.66	8.74	6.01	100.00
Total	6,768	7,633	11,804	8,529	7,061	4,343	46,138
% of column	100.00	100.00	100.00	100.00	100.00	100.00	100.00
% of row	14.67	16.54	25.58	18.49	15.30	9.41	100.00

¹ Unknowns for mother's education level are excluded from analysis (n=340).

Note: Due to rounding, percentages may not add to 100.

Note: Healthy People 2000 & 2010 prenatal care goal is that 90% of mothers initiate care in first trimester.

County of Orange
Resident Births
1999

Section 5. Prenatal Care

Trimester Prenatal Care Initiated by Race/Ethnicity of Mother

Trimester Prenatal Care Initiated	Race/Ethnicity of Mother							Total
	White	African-American	Hispanic	Southeast Asian	Other Asian	Other ¹	Unknown	
First trimester	15,527	488	18,441	2,285	2,707	628	144	40,220
% of column	93.41	82.02	81.01	88.60	88.55	91.81	82.29	86.54
% of row	38.61	1.21	45.85	5.68	6.73	1.56	0.36	100.00
Second trimester	864	79	3,412	242	258	47	16	4,918
% of column	5.20	13.28	14.99	9.38	8.44	6.87	9.14	10.58
% of row	17.57	1.61	69.38	4.92	5.25	0.96	0.33	100.00
Third trimester	137	18	687	37	75	4	2	960
% of column	0.82	3.03	3.02	1.43	2.45	0.58	1.14	2.07
% of row	14.27	1.88	71.56	3.85	7.81	0.42	0.21	100.00
No prenatal care	41	5	102	6	10	2	3	169
% of column	0.25	0.84	0.45	0.23	0.33	0.29	1.71	0.36
% of row	24.26	2.96	60.36	3.55	5.92	1.18	1.78	100.00
Unknown	54	5	123	9	7	3	10	211
% of column	0.32	0.84	0.54	0.35	0.23	0.44	5.71	0.45
% of row	25.59	2.37	58.29	4.27	3.32	1.42	4.74	100.00
Total	16,623	595	22,765	2,579	3,057	684	175	46,478
% of column	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
% of row	35.77	1.28	48.98	5.55	6.58	1.47	0.38	100.00

¹ Other race/ethnicity defined as Native Americans, Alaskan Natives, Native Hawaiians and those who described themselves as "Other" race/ethnicity.

Note: Due to rounding, percentages may not add to 100.

Note: Healthy People 2000 & 2010 prenatal care goal is that 90% of mothers initiate care in first trimester.

County of Orange
Resident Births
1999
Section 5. Prenatal Care

Trimester Prenatal Care Initiated by Mother's Age

Trimester Prenatal Care Initiated	Mother's Age ^{1,2}									Total
	< 15 Years	15-17 Years	18-19 Years	20-24 Years	25-29 Years	30-34 Years	35-39 Years	40-44 Years	45 + Years	
First trimester	34	824	1,826	7,388	11,377	11,664	5,936	1,107	63	40,219
% of column	57.63	66.56	74.99	81.77	87.52	90.66	91.15	88.00	85.14	86.54
% of row	0.08	2.05	4.54	18.37	28.29	29.00	14.76	2.75	0.16	100.00
Second trimester	20	312	475	1,290	1,277	964	454	119	7	4,918
% of column	33.90	25.20	19.51	14.28	9.82	7.49	6.97	9.46	9.46	10.58
% of row	0.41	6.34	9.66	26.23	25.97	19.60	9.23	2.42	0.14	100.00
Third trimester	3	83	102	265	248	153	84	21	1	960
% of column	5.08	6.70	4.19	2.93	1.91	1.19	1.29	1.67	1.35	2.07
% of row	0.31	8.65	10.63	27.60	25.83	15.94	8.75	2.19	0.10	100.00
No prenatal care	2	12	17	48	34	33	17	5	1	169
% of column	3.39	0.97	0.70	0.53	0.26	0.26	0.26	0.40	1.35	0.36
% of row	1.18	7.10	10.06	28.40	20.12	19.53	10.06	2.96	0.59	100.00
Unknown	0	7	15	44	63	52	21	6	2	210
% of column	0.00	0.57	0.62	0.49	0.48	0.40	0.32	0.48	2.70	0.45
% of row	0.00	3.33	7.14	20.95	30.00	24.76	10.00	2.86	0.95	100.00
Total	59	1,238	2,435	9,035	12,999	12,866	6,512	1,258	74	46,476
% of column	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
% of row	0.13	2.66	5.24	19.44	27.97	27.68	14.01	2.71	0.16	100.00

¹ Mother's age at time of delivery.

² Age unknown for two mothers.

Note: Due to rounding, percentages may not add to 100.

Note: Healthy People 2000 & 2010 prenatal care goal is that 90% of mothers initiate care in first trimester.

County of Orange
Resident Births
1999
Section 6. Payment Source

Principal Payment Source for Prenatal Care by Race/Ethnicity of Mother

Payment Source for Prenatal Care	Race/Ethnicity of Mother							Total ²
	White	African-American	Hispanic	Southeast Asian	Other Asian	Other	Unknown	
Medi-Cal	1,585	177	12,458	687	371	82	12	15,372
% of column	9.54	29.75	54.75	26.65	12.14	11.99	6.98	33.09
% of row	10.31	1.15	81.04	4.47	2.41	0.53	0.08	100.00
HMO/Private	14,496	383	9,135	1,829	2,469	585	137	29,034
% of column	87.23	64.37	40.15	70.95	80.77	85.53	79.65	62.49
% of row	49.93	1.32	31.46	6.30	8.50	2.01	0.47	100.00
No care	42	5	103	6	10	2	3	171
% of column	0.25	0.84	0.45	0.23	0.33	0.29	1.74	0.37
% of row	24.56	2.92	60.23	3.51	5.85	1.17	1.75	100.00
Other¹	496	30	1,058	56	207	15	20	1,882
% of column	2.98	5.04	4.65	2.17	6.77	2.19	11.63	4.05
% of row	26.35	1.59	56.22	2.98	11.00	0.80	1.06	100.00
Total	16,619	595	22,754	2,578	3,057	684	172	46,459
% of column	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
% of row	35.77	1.28	48.98	5.55	6.58	1.47	0.37	100.00

Expected Payment Source for Delivery by Race/Ethnicity of Mother

Payment Source for Delivery	Race/Ethnicity of Mother							Total ²
	White	African-American	Hispanic	Southeast Asian	Other Asian	Other	Unknown	
Medi-Cal	1,588	180	12,505	690	374	81	10	15,428
% of column	9.56	30.25	54.99	26.76	12.25	11.84	5.78	33.22
% of row	10.29	1.17	81.05	4.47	2.42	0.53	0.06	100.00
HMO/Private	14,549	388	9,171	1,831	2,474	588	140	29,141
% of column	87.58	65.21	40.33	71.02	81.01	85.96	80.92	62.75
% of row	49.93	1.33	31.47	6.28	8.49	2.02	0.48	100.00
Unattended	4	0	1	0	0	0	5	10
% of column	0.02	0.00	0.00	0.00	0.00	0.00	2.89	0.02
% of row	40.00	0.00	10.00	0.00	0.00	0.00	50.00	100.00
Other¹	472	27	1,065	57	206	15	18	1,860
% of column	2.84	4.54	4.68	2.21	6.75	2.19	10.40	4.01
% of row	25.38	1.45	57.26	3.06	11.08	0.81	0.97	100.00
Total	16,613	595	22,742	2,578	3,054	684	173	46,439
% of column	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
% of row	35.77	1.28	48.97	5.55	6.58	1.47	0.37	100.00

¹ Other includes Medi-Care, Worker's Compensation, Other Government funds and Other non-Government funds.

² Missing for payment source for prenatal care (n=19) and expected payment source for delivery (N=39) excluded.

Note: Due to rounding, percentages may not add to 100.

County of Orange
Resident Births
1999
Section 7. Parental Age

Father's Age Statistics by Mother's Age Group

Mother's Age		Father's Age Statistics in Years						
Mother's Age Group ¹	Mother's N	Father's N	Father's Missing (%)	Father's Mean	Father's Median	Father's Minimum	Father's Maximum	Father's Standard Deviation
< 15 Years	59	25	34 (57.6%)	17.7	17.0	13	27	3.1
15-17 Years	1,238	945	293 (23.7%)	20.4	20.0	14	47	3.5
18-19 Years	2,435	2,082	353 (14.5%)	22.5	22.0	15	43	3.9
20-24 Years	9,035	8,291	744 (8.2%)	26.0	25.0	16	62	4.6
25-29 Years	12,999	12,497	502 (3.9%)	30.3	30.0	17	81	4.7
30-34 Years	12,866	12,530	336 (2.6%)	34.1	34.0	18	63	4.7
34-39 Years	6,512	6,312	200 (3.1%)	37.6	37.0	19	71	5.2
40-44 Years	1,258	1,199	59 (4.7%)	40.7	41.0	21	66	5.9
= 45 Years	74	74	0 (0%)	43.2	44.0	13	81	6.7

Difference in Father's & Mother's Age (Father's Age-Mother's Age) by Mother's Age Group

Mother's Age		Difference in Father's and Mother's Age Statistics in Years						
Mother's Age Group ¹	Mother's N	Father's N	Father's Missing (%)	Mean Difference	Median Difference	Minimum Difference	Maximum Difference	Difference Standard Deviation
< 15 Years	59	25	34 (57.6%)	4.1	3.0	0	20	4.0
15-17 Years	1,238	945	293 (23.7%)	4.0	3.0	-2	30	3.4
18-19 Years	2,435	2,082	353 (14.5%)	4.0	3.0	-4	24	3.8
20-24 Years	9,035	8,291	744 (8.2%)	3.8	3.0	-7	38	4.4
25-29 Years	12,999	12,497	502 (3.9%)	3.2	2.0	-12	54	4.6
30-34 Years	12,866	12,530	336 (2.6%)	2.2	2.0	-14	31	4.5
34-39 Years	6,512	6,312	200 (3.1%)	1.1	1.0	-19	34	5.1
40-44 Years	1,258	1,199	59 (4.7%)	0.0	0.0	-20	23	5.9
= 45 Years	74	74	0 (0%)	-3.1	-2.0	-30	16	6.6

Examples: If the father's age is 29 and the mother's age is 22 the difference would be 7. If the father's age is 30 and the mother's age is 34 the difference would be -4. For mothers age 15-17 years, fathers ranged from two years younger (-2) than the mother to 30 years older than the mother and on average fathers were 3.95 years older than mothers in this age range.

¹ Mother's age unknown for two persons, father's age is also unknown these two.

County of Orange
Resident Births
1999

Section 8. Comparison of Mother's & Father's Ethnicity

Mother's Race/Ethnicity by Father's Race/Ethnicity

Mother's Race/Ethnicity	Father's Race/Ethnicity							
	White	African-American	Hispanic	Southeast Asian	Other Asian	Other ¹	Unknown	Total
White	13,660	266	1,724	26	288	189	470	16,623
% of column	82.76	29.04	8.11	1.10	10.97	27.55	22.11	35.77
% of row	82.18	1.60	10.37	0.16	1.73	1.14	2.83	100.00
African-American	65	414	42	0	9	7	58	595
% of column	0.39	45.20	0.20	0.00	0.34	1.02	2.73	1.28
% of row	10.92	69.58	7.06	0.00	1.51	1.18	9.75	100.00
Hispanic	1,856	163	19,242	23	126	68	1,287	22,765
% of column	11.25	17.79	90.54	0.97	4.80	9.91	60.54	48.98
% of row	8.15	0.72	84.52	0.10	0.55	0.30	5.65	100.00
Southeast Asian	117	9	41	2,243	78	9	82	2,579
% of column	0.71	0.98	0.19	94.80	2.97	1.31	3.86	5.55
% of row	4.54	0.35	1.59	86.97	3.02	0.35	3.18	100.00
Other Asian	613	42	143	69	2,102	33	55	3,057
% of column	3.71	4.59	0.67	2.92	80.05	4.81	2.59	6.58
% of row	20.05	1.37	4.68	2.26	68.76	1.08	1.80	100.00
Other¹	177	22	60	5	23	380	17	684
% of column	1.07	2.40	0.28	0.21	0.88	55.39	0.80	1.47
% of row	25.88	3.22	8.77	0.73	3.36	55.56	2.49	100.00
Unknown	17	0	1	0	0	0	157	175
% of column	0.10	0.00	0.00	0.00	0.00	0.00	7.38	0.38
% of row	9.71	0.00	0.57	0.00	0.00	0.00	89.71	100.00
Total	16,505	916	21,253	2,366	2,626	686	2,126	46,478
% of column	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
% of row	35.51	1.97	45.73	5.09	5.65	1.48	4.57	100.00

¹ Other race/ethnicity defined as Native Americans, Alaskan Natives, Native Hawaiians and those who described themselves as "Other" race/ethnicity.

Note: Due to rounding, percentages may not add to 100.

Appendix 1

County of Orange Resident Births 1999

Number of Births by Race/Ethnicity of the Mother

Race/Ethnicity of the Mother	Live Births	Percent
White	16,623	35.77%
African American	595	1.28%
Hispanic	22,765	48.98%
Asian/Pacific Islander	5,636	12.13%
American Indian	75	0.16%
Other	609	1.31%
Unknown/Not Stated	175	0.38%
Total	46,478	100.00%

Number of Births to Mothers Aged 15-44 Years by Race/Ethnicity of the Mother

Race/Ethnicity of the Mother	Live Births	Percent
White	16,577	35.77%
African American	594	1.28%
Hispanic	22,691	48.96%
Asian/Pacific Islander	5,624	12.14%
American Indian	75	0.16%
Other	609	1.31%
Unknown/Not Stated	173	0.37%
Total	46,343	100.00%

Number of Births to Teens (Mother's Aged 15-19) by Race/Ethnicity of the Mother

Race/Ethnicity of the Mother	Live Births	Percent
White	560	15.25%
African American	62	1.69%
Hispanic	2,876	78.30%
Asian/Pacific Islander	144	3.92%
American Indian	7	0.19%
Other	18	0.49%
Unknown/Not Stated	6	0.16%
Total	3,673	100.00%

Number of Infant Deaths by Race/Ethnicity of the Mother¹

Race/Ethnicity of the Mother	Infant Deaths	Percent
White	52	24.88%
African American	9	4.31%
Hispanic	121	57.89%
Asian/Pacific Islander	23	11.00%
American Indian	0	0.00%
Other	1	0.48%
Unknown/Not Stated	3	1.44%
Total	209	100.00%

¹ Birth certificates matched to death certificates.

Note: Due to rounding, percentages may not add to 100.

Appendix 2

County of Orange Resident Births 1999

July 1, 1999 Orange County Population Estimates¹

Males	Total	White/Other²	Hispanic	API³	African- American	American Indian
< 15	350,795	148,004	150,297	45,352	6,394	748
15-17	52,591	25,819	17,543	8,018	1,060	151
18-19	35,082	17,301	11,565	5,337	761	118
20-24	81,980	38,917	27,258	13,597	1,919	289
25-29	106,687	46,276	42,533	15,376	2,137	365
30-34	128,160	59,389	51,570	14,805	1,964	432
35-39	133,361	74,876	40,936	15,482	1,656	411
40-44	117,278	71,873	28,401	15,191	1,453	360
45-49	95,387	61,805	18,947	12,853	1,410	372
50-54	82,690	57,758	13,254	10,125	1,266	287
55+	225,352	170,276	28,717	23,317	2,314	728
Total	1,409,363	772,294	431,021	179,453	22,334	4,261

Females	Total	White/Other²	Hispanic	API³	African- American	American Indian
< 15	333,746	140,344	143,840	42,724	6,144	694
15-17	50,021	24,613	16,614	7,647	994	153
18-19	32,706	16,307	10,538	5,063	701	97
20-24	76,853	37,324	24,837	12,762	1,700	230
25-29	93,785	45,466	31,641	14,489	1,859	330
30-34	110,269	56,490	36,982	14,564	1,840	393
35-39	119,261	69,794	31,888	15,588	1,615	376
40-44	109,920	68,557	24,210	15,279	1,490	384
45-49	95,423	62,631	17,290	13,701	1,449	352
50-54	85,894	60,898	12,718	10,745	1,153	380
55+	270,352	207,818	33,550	25,808	2,305	871
Total	1,378,230	790,242	384,108	178,370	21,250	4,260

Grand total 2,787,593

¹ Population estimates obtained from the California Department of Finance web site:

<http://www.dof.ca.gov/HTML/DEMOGRAP/data.htm>

State of California, Department of Finance, *Race/Ethnic Population with Age and Sex Detail, 1970-2040*. Sacramento, CA, December 1998.

² The California Department of Finance adds those race/ethnicities categories that do not meet the definitions of Hispanic, African-American, Asian/Pacific Islander or American Indian/Native Alaskan to the White/Other category.

³ API is Asian and Pacific Islanders.

Appendix 3

Technical Notes

Implementation of Electronic Registration of Births

In 1994, Orange County implemented the Automated Vital Statistics System (AVSS) developed by the University of California at Santa Barbara, for registering births electronically. Prior to 1994, the file of Orange County births consisted of selected items and limited information about some items from the birth certificate. With the implementation of AVSS, all of the information on the birth certificate is now available in the birth file. The data fields most impacted by the change in the system are discussed below.

Mother's Residence:

Previously, only the codes for mother's city of residence and census tract were included in the birth file. Starting in 1994, the data file contains mother's complete address.

Parent's Demographic Information (Race, Ethnicity, City, ZIP code and Census Tract):

In addition to codes for race and Hispanic status from the birth certificate, the 1994 format of the birth file also includes the race and Hispanic background stated by the parents.

An extensive effort has gone into the verification and correction when necessary, of the codes for parent's race and ethnicity, as well as the mother's city of residence, ZIP code and Census tract using the detailed information now available. A slight difference between the numbers of births by city, ZIP code and the ethnic distribution reported here and those available from other sources may be due to this extensive quality assurance process.

Complication and Procedures of Pregnancy and Concurrent Illnesses:

Prior to 1994, only the first two of the sixteen possible complications and procedures of pregnancy listed on the birth certificate were included on the birth file.

Complications and Procedures of Labor and Delivery:

Prior to 1994, only the first of the nine possible complications and procedure of labor and delivery listed on the birth certificate were included in the birth file.

Abnormal Conditions and Clinical Procedures Relating to the Newborn:

Prior to 1994, only the first of ten possible abnormal conditions and clinical procedures listed on the birth certificate was included in the birth file.

All the complications that are listed on the birth certificate in each of the above categories are included in the birth file beginning in 1994. It is important to note that the increase in the number of births with certain complications and procedures in this document compared to documents prior to 1994 can be attributed to the additional information now available. Additionally, all complications and procedures listed are entered by the physician onto the birth certificate from a list of pre-selected two-digit numeric codes; therefore, no additional information pertaining to these complications or procedures is available from the birth certificate.

Notes

Race/Ethnicity of the Child:

To be consistent with the change made by the National Center for Health Statistics, beginning with 1994, only the mother's race and ethnicity is used for determining the race and ethnicity of the child. In previous documents, the race and ethnicity of the father and mother were used. Birth rates and infant death rates by race and ethnicity (page 3) are calculated using California Department of Finance (DOF) population estimates. DOF utilizes five mutually exclusive race and Hispanic origin categories. These categories are Hispanic, White/Other Races/Non-Hispanic, African-American/Black/Non-Hispanic, Asian/Pacific Islander/Non-Hispanic and American Indian/Non-Hispanic (See Appendix 2). For the purposes of space conservation, these categories are listed in the tables on page 3 as Hispanic, White, African-American, Asian/Pacific Islander (API) and American Indian. To be consistent with DOF population data, when fertility rates are calculated, the race and ethnicity categories that do not meet the definition for Hispanic, African-American/Black, Asian/Pacific Islander or American Indian are added to the White category.

Elsewhere in this document, seven race and Hispanic categories are utilized: White, Hispanic, African-American, Southeast Asian, Other Asian, Unknown and Other. Other is used to define Native Americans, Alaskan Natives, Native Hawaiians, and those who describe themselves as "Other" or do not fit into the previously defined categories. It is felt that these seven categories better represent the diverse population of Orange County. The categories are not used in the calculation of rates due to the lack of DOF population estimates for all of these groups.

Abnormal Conditions and Clinical Procedures:

The Vital Statistics Section of the California Department of Health Services Center for Health Statistics considers the birth certificate data regarding congenital abnormalities unreliable. It is well documented that congenital anomalies, except for the most visible and most severe, are incompletely reported on birth certificates. The completeness of reporting specific anomalies depends on how easily they are recognized in the short time between birth and birth-registration. The State of California collects this information only as a part of their contract with the National Center for Health Statistics. In view of the above information, the data regarding abnormal conditions in this document could be misleading and, therefore, should be used with caution.

Birth Weight and Gestational age:

Starting with 1995, to be consistent with the definitions used by the Centers for Disease Control and Prevention, the classification categories of birth weight of the infant have been modified. Due to the large amount of inaccurate data on gestational age of the child, these tables have been removed from the 1999 birth document.

Populations

Three different population sources were used to calculate the rates used in this document. All three populations are publicly available from the California Department of Finance (DOF) and are available on the DOF web site, <http://www.dof.ca.gov>. The population statistics used for this document are available in the following publications: E-2 *County Population Estimates and Components of Change, 1999-2000, with Historical Estimates, 1990-1999*; E-4 *Revised Historical City, County and State Population Estimates, 1991-2000, with 1990 and 2000 Census Counts*; and *Race/Ethnic Population with Age and Sex Detail, 1970-2040*.

Definitions

Place of occurrence	The place where the event occurred (regardless of place of residence).
Place of residence	The place where a person lives or maintains legal residency. For live births and fetal deaths, the mother's residence is used.

Births

Childbearing age	Women 15 through 44 years of age.
Live birth	The complete expulsion or extraction from its mother of a product of conception (irrespective of the duration of pregnancy) which, after such separation, breaths or shows any other evidence of life such as beating of the heart, pulsation of the umbilical cord, or definite movement of voluntary muscles, whether or not the umbilical cord has been cut or the placenta is attached. This definition was promulgated by the World Health Organization in 1950, and is set forth in the California Administrative Code, Title 17, Chapter 1, Article 3. If the fetus is 20 weeks or more gestational age, the death must be registered with the local registrar.
Low birth weight	A live birth or fetal death weighing less than 2,500 grams (5 pounds 8 ounces).
Very low birth weight	A live birth or fetal death weighing less than 1,500 grams (3 pounds 5 ounces).

Deaths

Fetal death	A death prior to the complete expulsion or extraction from its mother of a product of conception (irrespective of the duration of pregnancy); the death is indicated by the fact that after such separation, the fetus does not breath or show any other evidence of life such as beating of the heart, pulsation of the umbilical cord, or definite movement of voluntary muscles. This definition was promulgated by the World Health Organization in 1950, and is set forth in the California Administrative Code, Title 17, Chapter 1, Article 3. If the fetus is 20 weeks or more gestational age, the death must be registered with the local registrar.
Infant death	A death occurring in the first year of life.
Maternal death	A death resulting from the complications of pregnancy, childbirth and the puerperium (Tenth Revision of International Classification of Disease codes O00-O99).
Neonatal death	A death occurring during the first 27 days of life.
Postneonatal death	A death occurring between the 28 th day and the end of the first year of life.

Rates and Ratios

$$\text{Crude (Live) birth rate} = \frac{\text{Number of live births}}{\text{Estimated mid year population}} \times 1,000$$

$$\text{General fertility rate} = \frac{\text{Number of live births}}{\text{Estimated female population 15-44 years old}} \times 1,000$$

$$\text{Teen birth rate} = \frac{\text{Number of live births to mothers 15-19 years old}}{\text{Estimated female population 15-19 years old}} \times 1,000$$

$$\text{Low birth weight rate} = \frac{\text{Number of infants weighing less than 2,500 g at time of birth}}{\text{Total number of live births}} \times 1,000$$

$$\text{Very low birth weight rate} = \frac{\text{Number of infants weighing less than 1,500 g at time of birth}}{\text{Total number of live births}} \times 1,000$$

$$\text{Fetal death ratio} = \frac{\text{Number of reportable fetal deaths}}{\text{Total number of live births}} \times 1,000$$

$$\text{Infant mortality rate} = \frac{\text{Number of deaths under 1 year of age}}{\text{Total number of live births}} \times 1,000$$

$$\text{Neonatal mortality rate} = \frac{\text{Number of deaths under 28 days of age}}{\text{Total number of live births}} \times 1,000$$

$$\text{Post-neonatal mortality rate} = \frac{\text{Number of deaths 28 days of age to less than 1 year of age}}{\text{Total number of live births}} \times 1,000$$

$$\text{Maternal death rate} = \frac{\text{Number of deaths due to complications of pregnancy and childbirth}}{\text{Total number of live births}} \times 10,000$$